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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,260	07/02/2007	Satoru Sato	DK-US065241	6444

22919 7590 12/20/2011

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EXAMINER	
BURK, CATHERINE E	

ART UNIT	PAPER NUMBER
3735	

NOTIFICATION DATE	DELIVERY MODE
12/20/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/593,260	SATO ET AL.	
	Examiner	Art Unit	
	CATHERINE E. BURK	3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-12,16-19 and 21-34* is/are pending in the application.

5a) Of the above claim(s) *1-11 and 30-34* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *12,16-19 and 21-29* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the amendment filed on October 12th, 2011. The examiner acknowledges the amendments to claims 12, 16-18, 21, 22, and 24-26 and the cancellation of claims 13-15 and 20. Claims 1-12, 16-19, and 21-34 are pending with claims 1-11 and 30-34 have been previously withdrawn from consideration.

Claim Objections

1. Claim 28 is objected to because of the following informalities: the limitation "said aircraft" lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 12, 16-19, and 21-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 12; at lines 10-12, applicant recites the limitation "the block inducing sleep of said subject at a first time/a second time correspondingly to an eastward route/a westward route of said moving schedule, respectively, said first time being shorter than said second time". It is unclear how a start time (or a time at which something is induced) can be shorter or longer than another start time since a start time does not have a duration. The examiner believes applicant intends to claim inducing sleep for a first time/a second time, rather than at a first or second time and the claim will be examined as such. Claims 16-19 and 21-29 depend from claim 12 and therefore incorporate this indefinite limitation therein.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 12, 16, 17, 21, 25, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehret (US 5006985 A) in view of Lustig (US WO 2004/075714 A2).

7. Claim 12; Ehret discloses a biological rhythm adjustment device comprising an information input unit (figs. 1-4) for inputting a moving schedule (figs. 2-4) and biological information (fig. 1b) for a subject moving in accordance with the moving schedule (col. 4, lines 24-57 and col. 5, line 21 - col. 6, line 45). The device also includes a block for setting a sleeping schedule (fig. 5) based on the moving schedule and biological information previously input (figs. 5, 9Ci, 9Cii, 10A and 10B, col. 6, lines 46-48 and col. 7, line 51 - col. 8, line 16). The block for setting a sleeping schedule includes a parameter-setting unit which generates parameters based on the moving schedule and biological information input by a user, and a sleep/arousal introducing unit which sets the sleeping schedule based on the parameters. The parameter-setting unit includes many different subroutines generally shown in figs. 14-22, which calculate many parameters relative to jetlag such as actual time shift, effective time shift, body clock time shift (col. 21, line 1-61), flight time, meal times, and preferred sleep times (col. 21, line 62 - col. 22, line 32). This information is returned to a sleep/arousal introducing unit including subroutines generally shown in figs. 23 and 24. This subroutine outputs the sleep schedule based

on all of the parameters calculated by the parameter-setting unit (col. 24, line 30 - col. 25, line 18).

Ehret classifies travel into two categories: phase advances (traveling eastward) and phase delays (traveling westward). Ehret discloses one example of a phase advance sleeping schedule wherein a user is instructed to induce sleep at a certain time (figs. 9Ci-ii). For very large phase advances or delays, it is sometimes easier to treat the advance or delay as the opposite type of travel, i.e. a larger phase delay can be treated as a smaller phase advance or vice versa (fig. 16). Accordingly, a person traveling westward a great distance, could follow a phase advance schedule instead of a phase delay schedule wherein the phase advance schedule includes instructions to induce sleep at a certain time. The block inducing sleep for a certain amount of time or at a certain time is an intended use of the claimed system. The length of sleep and time of sleep onset recommended by the program are completely dependent on where the subject is traveling to and from. Therefore, the program could instruct the user to sleep for a longer time when traveling westward than when traveling eastward if the subject's westward travel is much longer than their eastward travel. Another factor that could affect the duration of sleep or time of sleep onset is the user's preference for sleep duration. The user may input different preferences into the system when traveling a certain direction depending on what tasks the user needs to carry out upon arriving at the destination. Ehret's system is capable of instructing a user to sleep for a shorter time when traveling eastward than when traveling westward and of instructing a user to go to sleep at a different time depending on the direction of travel without changing the structure or programming of the device.

Ehret discloses many types of stimuli ("zeitgebers") which can be applied to the subject in order to aid in overcoming jetlag (col. 1, lines 40-50) and recommends when to apply certain zeitgebers but Ehret's device itself does not include devices for directly applying these zeitgebers in order to raise a body temperature or relax a subject to induce sleep. However, Lustig discloses devices for affecting the temperature in proximity of a sleeping person in order to change the person's body temperature and thus influence the person's sleep state. Some of these devices include electric blankets and air conditioners (p. 10, last paragraph - p. 11 first paragraph). Lustig further discloses that relaxing or falling asleep can be aided by producing soothing sounds (p. 14, 2nd full paragraph). It would have been obvious to one of ordinary skill in the art at the time of the invention to include an air conditioning device for raising the body temperature of a subject and to produce soothing sounds which relax the subject in the system disclosed by Ehret, because Lustig teaches that temperature and sound are some of many factors known to influence a user's sleep state and thus could be one of the zeitgebers applied to the user to overcome jetlag.

8. Claim 16; Lustig further discloses a device irradiating light on the subject in order to influence a user's sleep state (p. 10, first paragraph).

9. Claim 17; the air-conditioner disclosed by Lustig also raises ambient temperature (p. 10, last paragraph - p. 11 first paragraph).

10. Claim 21; Lustig discloses sound-producing sensory stimulation generators (p. 3, last paragraph) and sound sources (p. 14, last paragraph) as sound output devices.

11. Claim 25; Ehret discloses the biological information includes a user's preferred sleeping time (or bed time) and sleep duration. Adding the sleep duration to bedtime will give the arousal

time (col. 4, lines 41-57). The sleeping schedule is set based on the sleeping and arousal time in the sleep/arousal introducing unit.

12. Claim 28; applicant recites the limitation "said information input unit is provided to a check-in counter for said aircraft". This constitutes an intended use of the claimed system. Where the system is provided does not change the structure of the system. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The system disclosed by Ehret is capable of being provided to a check-in counter for an aircraft, therefore it meets the limitations of claim 28.

13. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehret in view of Lustig as applied to claim 12 above, and further in view of Brown (US 5658222 A).

14. Claim 18; Ehret discloses another zeitgeber may be exercise (which is known to raise the body temperature) which can be performed by the subject in order to aid in overcoming jetlag (col. 1, lines 40-50 and col. 24, lines 11-14, fig. 9Cii) but does not disclose exercise equipment. Brown discloses a portable aerobic system which includes exercise equipment which collapses into a briefcase for easy transport (figs. 4 and 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to include a portable exercise system similar to the equipment disclosed by Brown with the system for overcoming jet lag disclosed by Ehret in view of Lustig because exercise equipment may not always be available when Ehret's system recommends the user exercise and Brown's system can easily be carried with the subject.

15. Claim 19; Ehret's system gives instructions to the user to perform exercise (col. 24, lines 11-14).

16. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehret in view of Lustig in view of Brown as applied to claim 18 above, and further in view of Short (US 4600723 A).

17. Claim 22; Ehret in view of Lustig in view of Brown disclose a sleep/arousal introducing unit including exercise equipment but are silent as to the exercise equipment being a device relaxing the subject. However, Short discloses that moderate exercise can induce sleep (col. 3, table 1, post-flight adaptation, item 7). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention that the exercise equipment disclosed by Ehret in view of Lustig in view of Brown also constitutes a device for relaxing the subject.

18. Claim 23; Ehret's system gives instructions to the user to perform exercise (col. 24, lines 11-14).

19. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehret in view of Lustig as applied to claim 12 above, and further in view of Russek (US 5395301 A).

20. Ehret in view of Lustig are silent as to the sleep/arousal inducing unit including a massager for relaxing the subject. However, Russek discloses a device for relaxing a user by emulating human touch (col. 2, lines 24-27). The device may be used to promote relaxation or sleep (col. 7, lines 39-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to include a massager for helping the subject relax in the system disclosed

by Ehret in view of Lustig, similar to the massager taught by Russek, because any device which facilitates falling asleep would make it easier for the user to follow the sleep schedule instructions generated by Ehret's device.

21. Claims 26, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehret in view of Lustig as applied to claim 12 above, and further in view of Seki (US 6164787 A).

22. Claim 26; Ehret in view of Lustig disclose the biological rhythm adjustment device according to claim 12 but are silent as to where the different components of the system are provided. However, Seki discloses a device for adjusting the biological clock of a subject, such as a transcontinental airline traveler. The device includes two components; a luminaire -16- disposed in the airplane seat, and a light source/power control unit -12- located remotely from the luminaire. The power supply unit is located away from the seat so that it can be designed and built without being restrained to cushion-like materials (col. 2, lines 1-8 and col. 3, lines 6-11). It would have been obvious to one of ordinary skill in the art at the time of the invention to locate the sleep/arousal introducing unit of the system disclosed by Ehret in view of Lustig in an airplane seat so that the stimuli can be individually provided to the subject on a flight, but to locate the information input unit and parameter-setting unit separately from the seat, similar to the power supply configuration taught by Seki, because it would allow the information input unit and parameter-setting unit, which are computers and generally made from hard parts, to be designed and built without having to use flexible or cushion-like materials, as taught by Seki.

23. Claims 27 and 29; applicant recites the limitation "said parameter-setting unit is provided in the crew's cabin in said aircraft" in claim 27 and the limitation "said information input unit is provided to a check-in counter for said aircraft" in claim 29. These constitute intended uses of the claimed system. Ehret in view of Lustig in view of Seki already disclose the information input unit and the parameter-setting unit are located away from the sleep/arousal introducing unit. Where the information input unit and parameter-setting unit are provided does not change the structure of the system, just the physical location of the components of the already disclosed system. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The parameter-setting unit and the information input unit disclosed by Ehret are capable of being provided to a crew's cabin and a check-in counter for the aircraft respectively, therefore Ehret in view of Lustig in view of Seki's system meets the limitations of claims 27 and 29.

Response to Arguments

24. Applicant's arguments filed October 12th, 2011 have been fully considered but they are not persuasive.

25. Applicant submits that Ehret teaches a system which recommends daily agendas and sleeping schedules for overcoming jetlag but does not disclose an actual device which induces sleep. This argument is moot in view of the new grounds of rejection applied under 35 U.S.C. 103(a) under Ehret in view of Lustig. The examiner submits that while Ehret does not disclose devices providing the recommended stimulating or relaxing sensations as part of the system,

Ehret does recommend certain stimuli be applied at certain times and discloses a plurality of stimuli which are known to induce sleep or wakefulness in a subject. Stimulating and/or relaxing devices for inducing sleep are taught by Lustig and would have been obvious to include in Ehret's system because Ehret disclose many different types of stimuli which are known to affect a user's sleep cycle. Ehret's system would be useless if none of the stimuli recommended could be applied, therefore it would have been obvious to include devices for applying stimuli as part of the system.

26. Applicant also submits that Ehret discloses nothing about inducing sleep in a westward flight. The examiner respectfully disagrees. Ehret discloses one example of a westward flight which does not include inducing sleep (fig. 22); however Ehret also discloses that long westward flights (or phase delays) can sometimes be more easily overcome by treating the delay as a phase advance (fig. 16). The examples of phase advances taught by Ehret include instructing a user to sleep at a certain time. Sleep can then be induced according to Ehret's recommended schedule by stimulating/relaxing devices taught by Ehret in view of Lustig.

27. Applicant further submits that Ehret fails to disclose inducing sleep in the subject at a first time for an eastward route and a second, different time for a westward route. The examiner respectfully disagrees. Firstly, a traveler would not be traveling on both and eastward and westward route at the same time, therefore the times at which sleep is induced on either trip must be different. Furthermore, the distances and/or number of time zones the traveler is crossing may be different on a westward route than on an eastward route depending on whether the user is traveling to and from the same cites or if the user is stopping somewhere along the route during

one of the journeys. Any of these factors could cause the system to instruct the user to sleep at a different time or for a different amount of time.

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CATHERINE E. BURK whose telephone number is (571)270-7130. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. E. B./
Examiner, Art Unit 3735

/Charles A. Marmor, II/
Supervisory Patent Examiner
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